

LISTING OF THE CLAIMS

The claims as pending are as follows:

1. (Previously presented) Process for reducing the coking on the metal walls of a reactor for the cracking of hydrocarbons or of other organic compounds and on the metal walls of a heat exchanger placed subsequent to the cracking reactor, comprising the metal surfaces coming into contact with the organic substance to be cracked are pretreated with a stream of steam comprising at least one non-sulphur-containing silicon compound which is hexamethyldisiloxane and at least one non-silicon-containing sulphur compound which is dimethyldisulfide at a temperature of between 300 and 1100°C for a time of 0.5 to 12 hours, wherein the Si:S atomic ratio being between 2:1 and 1:2 and the concentration of silicon is less than 500 ppm.
2. (Previously presented) Process according to Claim 1, wherein the pretreatment of the cracking reactor is carried out at a temperature of between 750 and 1050°C.
3. (Previously presented) Process according to Claim 1, wherein the pretreatment of the heat exchanger placed subsequent to the cracking reactor is carried out at a temperature of between 400 and 700°C.
4. (Previously presented) Process according to Claim 1, wherein the pretreatment is carried out for a time of 1 to 6 hours.
5. (Previously presented) Process according to Claim 1, wherein the steam used as carrier fluid additionally comprises an inert gas.
6. (Previously presented) Process according to Claim 1, wherein use is made, of a non-sulphur-containing silicon compound, of a compound comprising only silicon, carbon, hydrogen and, optionally, oxygen.
- 7-10. (Canceled)

11. (Previously presented) Process according to Claim 1, wherein the concentration by mass of sulphur and silyl additives in the carrier fluid is between 50 and 5000 ppm, preferably between 100 and 3000 ppm.
12. (Previously presented) Process according to Claim 1, wherein pressure varies between 1 and 20 bar absolute, preferably between 1 and 5 bar absolute.
13. (Previously presented) Process according to Claim 1, wherein after the pretreatment, a sulphur compound and/or a silyl compound are added to the feedstock of the organic compound to be cracked.
14. (Previously presented) Process according to Claim 13, wherein the sulphur compound is dimethyl disulphide.
15. (Previously presented) Process according to Claim 13, wherein the silyl compound is hexamethyldisiloxane.
16. (Previously presented) Process according to Claim 13, wherein the Si:S atomic ratio does not exceed 2:1 and is preferably less than or equal to 1:2.
17. (Previously presented) Process according to Claim 13, wherein there is added, to a feedstock of organic compound to be cracked comprising sulphur, a silyl compound in an amount such that the Si:S atomic ratio does not exceed 2:1, and that the concentration of silicon does not exceed 500 ppm.
18. (Previously presented) Process according to Claim 13, wherein the concentration by mass of sulphur in the organic compound to be cracked is between 10 and 1000 ppm.
19. (Canceled)

20. (Previously presented) Process according to Claim 11, wherein the concentration is between 100 and 3000 ppm.
21. (Previously presented) Process according to Claim 12, wherein the pressure is between 1 and 5 bar absolute.
22. (Previously presented) Process according to Claim 16, wherein the ratio is less than or equal to 1:2.
23. (Previously presented) Process according to Claim 17, wherein the ratio is less than or equal to 1:2.
24. (Previously presented) Process according to Claim 18, wherein the concentration is between 20 and 300 ppm.
25. (Previously presented) A process for reducing coking on metal walls of a cracking reactor for the cracking of hydrocarbons or other organic compounds and on metal walls of a heat exchanger placed subsequent to the cracking reactor, comprising pretreating metal surfaces coming into contact with the organic substances to be cracked with a stream of steam comprising at least one non-sulphur-containing silicon compound and at least one non-silicon-containing sulphur compound at a temperature between 300 and 1100 °C for 0.5 to 12 hours, such that at least one non-silicon containing sulphur compound is carbon disulphide or a compound of formula $R^1-S_x-R^2$ in which R^1 and R^2 , which are identical or different, each representative of a hydrogen atom or hydrocarbonaceous group, and x is a number equal to or greater than 1, such that an inhibition of coke percentage on the metal walls of the cracking reactor and the heat exchanger is from 36 to 66%.
26. (Previously presented) The process according to claim 25, wherein the inhibition of coke percentage is from 53 to 66 %.

27. (Previously presented) The process according to claim 25, wherein the at least one non-sulphur containing silicon compound comprises hexamethyldisiloxane and wherein the at least one non-silicon containing sulphur compound comprises dimethyldisulphide.

28. (Previously presented) The process according to claim 27, wherein the Si:S atomic ratio is between 2:1 and 1:2.

29. (Previously presented) The process according to claim 25, wherein the pretreatment of the cracking reactor is carried out at a temperature from 750° to 850 °C.